CAS 79-94-7

Substance name 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol (TBBPA)

Toxicity

An oral study in pregnant rats with TBBPA in its formulated product, Saytex 111, reported reduced fetal weight, increased malformations, and fetal death (ICI Americas 1985 study cited in NIEHS[1]). Multiple subsequent studies on the technical compound did not show consistent reproductive or developmental toxicity.[2] Kidney toxicity following oral dosing was reported in newborn rats.[3]

TBBPA has been shown to compete with thyroid hormone (T4) in binding to transthyretin serum binding protein *in vitro*.[1,2] It also appears to have potential to act as a thyroid hormone antagonist.[4,5] TBBPA binds to the estrogen receptor but does not appear to be a receptor agonist or to have significant estrogenic potential.[2,6] It is not currently listed as an endocrine disruptor by the European Union.

Exposure

This substance is listed as a Persistent, Bioaccumulative and Toxic (PBT) chemical under Washington State's PBT rule (WAC 173-333-320).[7] TBBPA has been detected in breast milk in several small studies of the general population in Europe.[2,8]

TBBPA is a high production volume (HPV) chemical that is used as both a reactive and additive flame retardant in plastics, adhesives, paper, and textiles.[1,2,] It may constitute up to 22% of ABS polymer resins.[2] It is used primarily in electrical and electronic equipment. TBBPA is also used as a plasticizer, a component in adhesives and coatings, and a chemical intermediate for the synthesis of other flame retardants (e.g., TBBPA allyl ether).[2]

References

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